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ABSTRACT

During 1985-86 the School Community Education Program (also known as the Umbrella Program), funded by the New York State Legislature, provided a variety of educational and training experiences to some 25,871 participants, including pre-kindergarten children and their parents; and students, teachers, and supervisors from kindergarten through grade 12. The program consists of 44 different projects designed to provide innovative solutions to local educational and school problems. The 1985-86 evaluation indicates that in general the program was successful: 38 projects met their stated objectives, and some were highly successful. Of the six projects that did not reach their objectives, five set stringent objective criteria that may have been beyond their grasp. Those projects that failed to meet their stated objective should be closely monitored to identify the reasons for failure. Evaluation reports for each project are presented in four volumes. Each report contains a brief project overview, describes the evaluation methodology, presents the findings, and offers recommendations for improvement. This volume, Volume I, presents evaluation reports of the following projects, which provided basic skills, English, and computer literacy instruction to elementary, intermediate, and high school students: (1) Polo Grounds Valley Inc.--Improving Reading Achievement; (2) Harlem School--Community Tutorial Project; (3) Project LOGIC: Logo for the Gifted Increases Creativity; (4) Tutoring: Walk and Talk Program; (5) Improving Competency Skills; (6) Computer Word Processing Program; (7) Students-Parents as Partners; (8) Computer Literacy Program; (9) Riverdale Preparatory Academy; and (10) Science Enrichment Program. Data are presented on 18 tables. Appendices include copies of program-developed assessment instruments. (BJV)

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SCHOOL COMMUNITY EDUCATION PROGRAM

IN NEW YORK CITY

1985-86

VOLUME I

OEA Evaluation Report

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EVALUATION SECTION REPORT

Robert Tobias, Administrator
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July, 1987

SCHOOL COMMUNITY EDUCATION PROGRAM

IN NEW YORK CITY

1985-86

VOLUME I

Prepared by the O.E.A.
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EVALUATION SUMMARY

BACKGROUND

The School Community Education Program (also known as the Umbrella Program) provides a variety of educational and training experiences to a wide range of participants, including pre-kindergarten children and their parents; and students, teachers, and supervisors at all grade levels from kindergarten through grade 12. The program consists of 44 different projects designed to provide innovative solutions to local educational and school problems. Ten projects provided basic skills, English, and computer literacy instruction; ten focused on social and environmental studies; five were designed for pre-kindergarten children, and the remaining projects provided a variety of educational experiences to participants. Funds were provided by the New York State Legislature to support program activities.

POPULATION SERVED

During 1985-86, the program served some 24,290 students, the majority of whom were elementary school pupils. In addition, the program served 1,226 teachers and supervisors, 245 pre-schoolers, and about 110 community adults in the 32 community school districts and selected high schools. Each project established different selection criteria for program participation.

PROGRAM OBJECTIVES

Although program objectives were designed for each specific project and, therefore, were varied, most concerned increasing participants' competence in specific skills and abilities.

EVALUATION METHODOLOGY

The evaluation of the program was based on a number of data sources: student performance outcomes on project-developed and standardized tests, pupil writing samples, teacher and student survey questionnaires, attendance rates, number of acceptances to special high schools, and review of two curriculum manuals. Pre-program and post-program data were compared to determine mean differences and, when appropriate, correlated *t*-tests and effect sizes were also computed to establish statistical significance and educational meaningfulness, respectively.

FINDINGS

The 1985-86 evaluation findings indicate that, in general, the School Community Education Program was successful. Thirty-eight projects met their stated objectives. Three staff development projects (Arts in General Education, Sum in One, and Early Childhood Language and Literacy) and two pre-kindergarten

projects (Brooklyn College Tutorial Center and Pre-School Gifted and Talented) were highly successful. All projects providing instruction in mathematics, writing, English, and computer literacy met their project objectives. In all five pre-kindegarten projects, participants substantially improved their overall performance.

Only six projects did not meet their evaluation objectives. Apart from the Help: Neighborhood Center project that needs extensive project modifications, the other unsuccessful projects set stringent objective criteria which may have been beyond the programs' reasonable grasp.

RECOMMENDATION

In addition to the recommendations made for each project, the following suggestion is made for the overall improvement of the School Community Education Program:

- Closely monitor those projects which failed to meet their stated objectives to identify reasons for failure to achieve criterion for success.

Acknowledgements

The production of this report is the result of a collaborative effort of full-time staff and consultants. In addition to those whose names appear on the cover, Maria Cheung undertook the analysis of the statistical data, and Elias Rosario typed, corrected, and duplicated this report. The unit could not have produced this evaluation without their participation.

INTRODUCTION

In 1985-86, the New York City Public Schools received $2,375,000 in funding from the New York State Legislature to operate the School Community Education Program (also known as the Umbrella Program). It consisted of 44 different projects designed to provide innovative solutions to local educational and school programs.

The program provided services to about 25,871 participants in the 32 community school districts and selected high schools. The majority of these participants (24,290) were elementary, intermediate, and high school students. In addition, 245 pre-school children, 1,226 teachers and supervisors, and 110 community adults also participated in the Umbrella Program.

Evaluation reports are presented in four volumes. Volume I contains evaluations for ten projects which provided reading, mathematics, writing, English, and computer literacy instruction to elementary, intermediate, and high school students. Volume II includes evaluations for ten projects on social, ethnic, and environmental studies, and instruction on communication and the arts. Three of these projects also provided staff development training. Volume III contains evaluations for 12 staff development projects. The remaining 12 projects, presented in Volume IV, provided a variety of educational experiences to participants. Five of these projects were designed for pre-kindergarten children, two were concerned with the writing of curricula, one provided parenting skills instruction to students with infants, and the other four projects were designed to improve attendance rates, health, opportunities to gain acceptance to special high schools, and to foster career awareness among students.

Each report contains a brief project overview, describes the evaluation methodology, presents the findings, provides recommendations for improvement, and includes copies of program-developed assessment instruments. The reports are listed in order of budgeted function number in the table of Contents.

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#5001-48-63402

POLO GROUNDS VALLEY INC.-
IMPROVING READING ACHIEVEMENT, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Michael D. Carlin

Prepared by:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Polo Grounds Valley Inc.-Improving Reading Achievement is an after-school project designed to provide basic-skills training to first- through sixth-grade students in Community School District (C.S.D.) 5. By exposing participants to diverse communication arts activities, the project seeks to enrich daily classroom experiences and, thus, improve students' reading achievement and self-esteem. The program objective was for participants to improve their reading ability as measured by annual citywide tests of reading achievement.

In 1985-86, the program served 50 elementary school students who had behavior and achievement problems and were referred by school staff, social workers or court counselors. Activities took place at the Polo Grounds Community Center for three hours a day, five days a week. An educational assistant and a student aide, working under the supervision of the project coordinator, provided basic skills activities to individual and/or small groups of students in order to encourage them to read, write and express themselves orally. Project activities also included

"hands-on" experience in the arts. Pupils were able to choose one art area among those being offered at the center: music, dance, drama and visual arts. Other activities included visits to museums, libraries, and art performances. Artists also visited the Polo Grounds Center. The New York State Legislature provided $16 thousand in funding to purchase educational supplies and cover admission to museums and other cultural activities.

EVALUATION METHODOLOGY

The effect of the program on student achievement was determined by examining the change in pupils' reading achievement between 1985 and 1986. Students' scores on the Degrees of Reading Power (D.R.P.) Test, administered in April 1986, were compared to their scores on the Reading Subtest of the California Achievement Test (CAT), given in April 1985. Since these tests are different, CAT test scores for 1985 grades three, four, and five were converted to comparable test scores on the D.R.P. CAT scores for 1985 second graders could not be converted to D.R.P. scores because this test does not exist below grade three. It was, thus, necessary to convert D.R.P. scores into CAT scores for grade two. All scores were then converted to normal curve

equivalent (N.C.E.)* scores which express student performance relative to a national norm. Mean N.C.E. gains are interpreted as a measure of project impact on student achievement.

FINDINGS

Complete test scores were submitted for 47 students in grades two through five (see Table 1). Overall, mean pretest score was 50.1 N.C.E.s; mean posttest score was 55.7 N.C.E.s, for a mean gain of 5.6 N.C.E. points. Achievement differences by grade ranged from a loss for fourth graders to a large gain of 11.6 N.C.E.s for third graders. Fourth- and fifth-grade students made above average mean pretest N.C.E. scores.

Individual student performance showed wide variation within and between grade levels. Table 2 presents the frequency distribution of students' gains. Over half of participants achieved gains larger than five N.C.E.s, while about a third (31.9 percent) did not achieve any gains.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation findings indicate that, in general, the Improving Reading Achievement Program was successful in meeting

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*N.C.E. scores are similar to percentile ranks, but unlike percentile ranks, are based on an equal-interval scale. Normal curve equivalent scores are based on a scale ranging from 1 to 99 with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced apart, arithmetic and statistical calculations such as averaging are meaningful; in addition, comparisons of N.C.E. scores may be made across different achievement tests.

TABLE 1

Students' Mean N.C.E. Scores by Grade
California Achievement Test and Degrees of Reading Power Test
Polo Grounds Valley, Inc.-Improving Reading Achievement, 1985-86

Grade (in 1985)	N	Mean Pretest	Mean Posttest	Mean Gain
2	11	43.8	47.9	4.1
3	10	44.6	56.2	11.6
4	12	59.6	59.2	- .4
5	14	50.9	58.7	7.8
TOTAL	47	50.1	55.7	5.6

- Overall mean gain was 5.6 N.C.E. points.
- Third graders achieved the largest mean gain.

TABLE 2

Frequency Distribution of Students' Gains
California Achievement Test and Degrees of Reading Power Test
Polo Grounds Valley, Inc.-Improving Reading Achievement, 1985-86

Gain (N.C.E.s)	N	Percent
0	15	31.9%
1- 5	5	10.6
6-10	11	23.4
11-15	8	17.0
16-20	3	6.4
21-25	2	4.3
26 and over	3	6.4
TOTAL	47	100.0

- Over 50 percent of student participants achieved gains larger than five N.C.E.s

its objective. Students improved their reading ability at posttest, achieving an overall mean gain of 5.6 N.C.E. scores. This improvement was demonstrated by all grades except fourth-grade pupils, who, nevertheless, performed best at pretest. In general, mean pretest scores were large especially for students in grades four and five who scored above grade level, indicating that some of these participants were not low achievers prior to program enrollment. More stringent criteria should be used in selecting students, giving priority to those pupils who show greatest need in remedial reading skills instruction.

In spite of these findings, however, it remains difficult to ascertain whether student improvement in reading skills can be solely attributed to project impact or to their regular classroom instruction. In order to answer this question, it would be necessary to compare the performance of participating students with the performance of a similar group of pupils who have not received remedial instruction in reading.

A final recommendation can be made regarding the project objective which needs to be modified to include a quantitative measure of project success. The following sentence could be included in the objective: "Participating students will achieve a mean gain of at least five N.C.E. scores."

#5001-48-63406

HARLEM SCHOOL-COMMUNITY TUTORIAL PROJECT, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Edythe B. Edwards

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Harlem School-Community Tutorial Project provided intensive basic skills instruction in reading and mathematics to students in Community School District (C.S.D.) 5. Students in grades two through ten, in need of basic skills remediation, were selected on the basis of diagnostic tests and recommendations made by school personnel and parents. Individual and small-group tutorials were held at two neighborhood community centers from 2:00 to 6:30 p.m. Students were expected to attend at least two 60-minute sessions per week.

In 1985-86, some 267 students completed the program, 156 in reading and 111 in mathematics. The program objective was for participants to improve their performance in reading or mathematics as measured by standardized tests of achievement. Project staff consisted of a program coordinator, ten teachers and four educational assistants. The New York State Legislature provided $47 thousand in funding for the project.

EVALUATION METHODOLOGY

Project impact was assessed by analyses of student performance on the reading or mathematics subtests of the Metropolitan

Achievement Test (M.A.T.). Students were administered the appropriate grade-level form as a pretest upon entering the program which occurred at different periods in the school year. All students were posttested in June when program activities concluded. In order to compare test scores of students who began project activities at different times, grade equivalent scores were converted to scaled scores since there are not mid-year norms for the M.A.T. Correlated t-tests were computed to establish if achievement differences were statistically significant. Effect size (E.S.)* which indicates the educational meaningfulness of the mean gain or loss for each comparison was also calculated.

FINDINGS

In general, students achieved statistically significant mean gains on both the reading and mathematics subtests of the M.A.T. Table 1 reports student performance on the reading subtest for all grades except grade ten because only one student in this grade took the pretest and posttest. Overall, mean pretest score was 652.7 scale score points, mean posttest was 691.8 scale score points for a mean gain of 39.1 scale score points. Mean gains

*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

TABLE 1

Students' Mean Scaled Scores on the Reading Subtest of the Metropolitan Achievement Test, by Grade Harlem School-Community Tutorial Project, 1985-86

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
2	5	505.2	55.8	596.6	55.5	91.4	30.7	3.0
3	21	579.3	57.5	634.9	45.6	55.6	44.7	1.2
4	31	629.3	47.9	662.6	41.3	33.3	18.0	1.8
5	30	667.9	47.1	696.1	34.0	28.1	19.0	1.5
6	28	688.5	37.2	719.7	35.5	31.2	21.8	1.4
7	17	687.5	55.5	728.5	55.0	41.0	33.6	1.2
8	13	684.2	49.2	722.4	46.9	38.1	31.0	1.2
9	11	702.4	52.8	748.6	51.9	46.3	27.8	1.7
TOTAL	156	652.7	67.5	691.8	57.4	39.1	30.1	1.3

[a]These gains were significant at $p \leq .05$.

- Students in all grades achieved statistically significant and educationally meaningful mean gains.
- Second graders achieved the largest mean gain of 91.4 scale score points.

varied by grade and ranged from 28.1 to 91.4 scale score points. Second- and third-grade students made the lowest scores but achieved the largest gains. Ninth graders also achieved a large gain even though they scored the largest mean pretest score.

In general, students achieved larger gains on the mathematics subtest. Table 2 presents this test results by grade except for second grade since only one student in this grade completed the program. All gains were statistically significant and educationally meaningful and ranged from 41.4 to 111.5 scale score points. Pretest scores were lowest for the lower grades and increased for the higher grades. Grade average gains, well above the overall mean gain, were achieved by third, fourth and fifth graders but tended to decrease for higher grades. Effect sizes were large, above 0.8 for all grades in both subtests.

CONCLUSIONS AND RECOMMENDATIONS

The Harlem School-Community Tutorial Project was a successful program. The evaluation findings indicate that students improved their performance on the reading and mathematics subtests of the M.A.T. Although students performed better on the mathematics subtest than on the reading subtest, they achieved large gains on both subtests. These mean gains were statistically significant and educationally meaningful. These gains, however, cannot be solely attributed to project impact because students also received instruction in reading and mathematics during their regular school day. In order to avoid

TABLE 2

Students' Mean Scaled Scores on the Mathematics Subtest of the Metropolitan Achievement Test, by Grade Harlem School-Community Tutorial Project, 1985-86

Grade	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[a] Mean	Difference[a] S.D.	E.S.
3	4	489.7	39.2	601.2	23.5	111.5	43.3	2.6
4	7	502.7	37.3	583.3	24.7	80.6	26.6	3.0
5	18	547.2	63.7	640.8	56.5	93.7	63.2	1.5
6	22	646.4	71.8	715.3	57.1	68.9	54.9	1.3
7	19	676.8	77.3	740.3	59.2	63.5	30.8	2.1
8	15	677.1	74.9	733.8	49.8	56.7	30.8	1.8
9	18	713.3	82.3	771.9	48.4	58.6	41.7	1.4
10	8	755.9	54.8	797.2	24.3	41.4	32.2	1.3
TOTAL	111	643.7	104.3	712.6	78.3	68.9	49.0	1.4

[a]These gains were significant at $p \leq .05$.

- Students in all grades achieved statistically significant and educationally meaningful mean gains.
- Third, fourth and fifth graders achieved the largest gains.

this problem, the project objective should include a quantitative measure for success, exceeding by a specified amount the average gains made in C.S.D. 5 on comparable tests of achievement for each grade. Efforts should also be made to have all participants begin the program at the same time so that gains can be validly compared.

#5001-48-63407

PROJECT LOGIC: LOGO FOR THE GIFTED INCREASES CREATIVITY, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Rosanne Kaufman

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

Project LOGIC (LOGO for the Gifted Increases Creativity) provides instruction in the computer language LOGO* to gifted elementary school children in Community School District (C.S.D.) 18. The purpose is to introduce computers to gifted students for the development of logical and creative thinking skills and develop children's sense of themselves as competent learners. An additional goal was to train teachers from C.S.D. 28 in computer literacy but this component was cancelled.

In 1985-86, some 679 kindergarten through grade three students of various achievement levels from six schools in C.S.D. 18 participated in the program. A computer center was organized in each participating school where students, working in groups of two or three, spent 45 to 60 minutes on the computer once a week. After learning the basic LOGO commands, pupils used them to carry out projects that required a wide range of problem-solving and higher-level thinking and communication skills. The project

*LOGO is a simple computer language designed to introduce children to programming and higher order thinking skills. With it they can draw figures and lines on the screen in response to simple English commands.

coordinator provided training and instruction to teachers in the use of micro-computers and assisted them in the development of lessons related to computer use. The New York State Legislature provided $40 thousand to fund the project.

The objective for 1985-86 was for participating pupils to demonstrate an increase in their knowledge of the LOGO computer language on a program-developed test.

EVALUATION METHODOLOGY

Project impact was assessed by an analysis of students' scores on project-developed tests of LOGO and general computer knowledge. Four forms of this test were used: kindergarten pupils were given the Early Childhood Test; first graders were administered the Early Childhood LOGO II Test; second and third graders were given the Project Logic I Test, and third-grade pupils with previous experience in the program took the Project Logic II Test (see Appendices A, B, C and D). The tests, consisting of 25 multiple-choice items, were administered on a pre- and posttest basis at the beginning and end of the school year.

FINDINGS

Pre- and posttest scores were reported for 579 students (see Table 1). All grades made gains from pretest to posttest. Pretest raw scores ranged from 7.5 to 10.9 points (from 29.9 to 58.9 percent correct); posttest raw scores ranged from 20.7

TABLE 1

Students' Mean Raw Scores[a] on Program-Developed Tests
By Grade
Project LOGIC, 1985-86

Grade	N	Pretest Raw Score	Pretest Percent Correct	Posttest Raw Score	Posttest Percent Correct	Gain Raw	Gain Percent
K/1[b]	116	14.7	58.9%	22.9	91.4%	8.2	32.5%
1	90	7.5	29.9	22.4	89.7	14.9	59.8
2	164	8.5	34.0	20.7	82.6	12.2	48.6
3	86	8.2	32.8	22.6	90.3	14.4	57.5
3[c]	123	10.9	43.6	21.6	86.2	10.7	42.6
TOTAL	579						

[a]Perfect Raw Score = 25.

[b]Includes first-grade scores from P.S. 208 reported with kindergarten scores.

[c]These students had previous experience in the project and were given a more advanced test.

- All grades achieved mean gains of at least 32 percentage points.

22.9 (from 82.6 to 91.4 percent correct), and mean gains showed an improvement ranging from 32.5 to 59.8 percent. The group of kindergarteners and first graders made the lowest gains which might be attributable to a ceiling effect since at pretest they correctly answered about 59 percent test items. First, second and third graders without previous experience in the project achieved the highest mean gains.

CONCLUSIONS AND RECOMMENDATIONS

The findings show that Project LOGIC met its objective since students in all grades achieved gains on project-developed tests. Pupils in first, second, and third grades without previous experience in the project benefitted the most from the program. Kindergarteners, together with one class of first graders, correctly answered more than half of the test items at pretest indicating that the test might be too easy for them (ceiling effect). Project staff should revise the Early Childhood form of the test, eliminating those items that most pupils know at pretest. Alternatively, they should administer the appropriate test level to first graders in P.S. 208 because their performance might be skewing test results for kindergarten children. In the future, too, the objective should include quantitative criteria for successful program completion. For instance, 80 percent of pupil participants will achieve a gain of 40 percent.

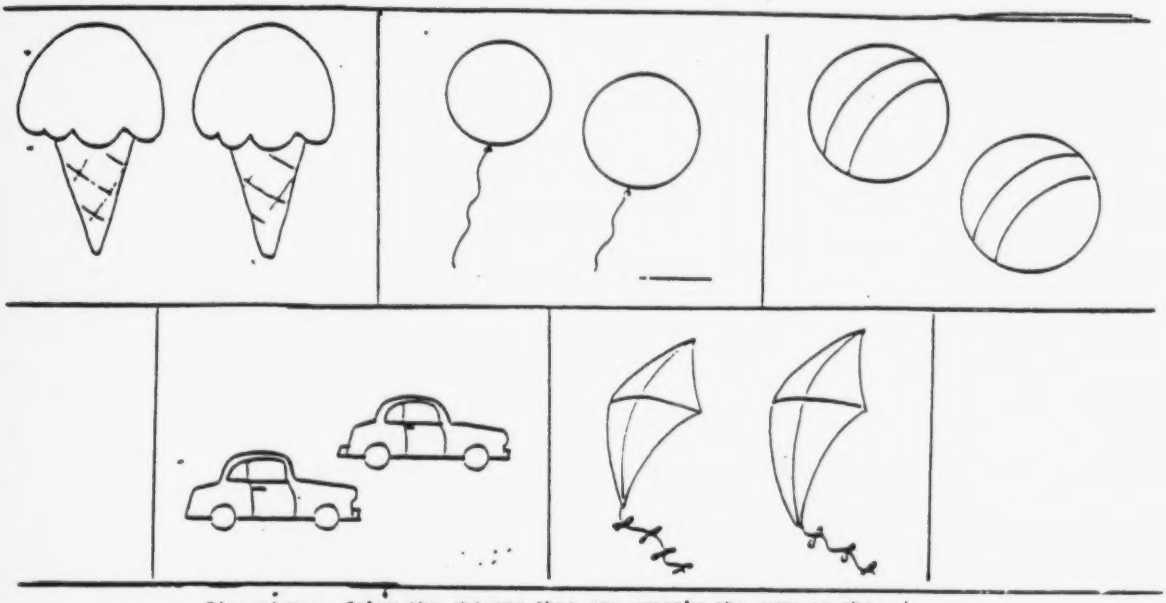
APPENDIX A

Early Childhood Pretest

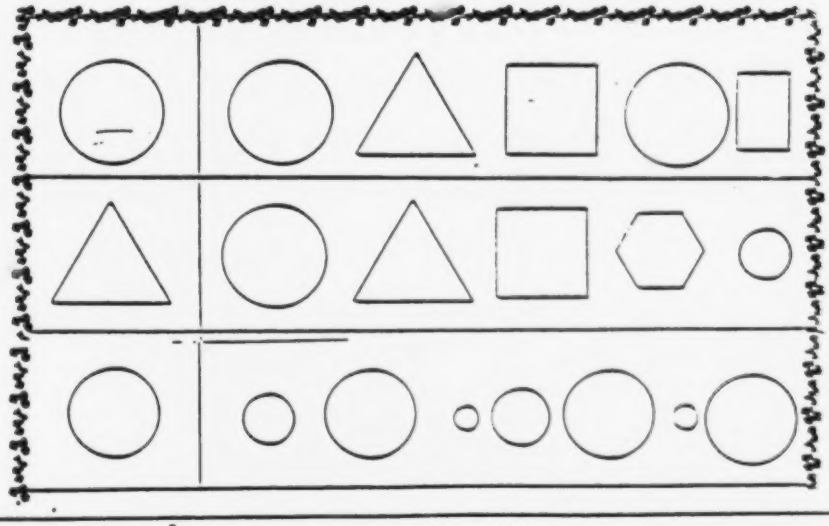
C.S.D18, Bklyn.

CITYWIDE UMBRELLA PROJECT/ LOGO COMPUTER PROGRAM

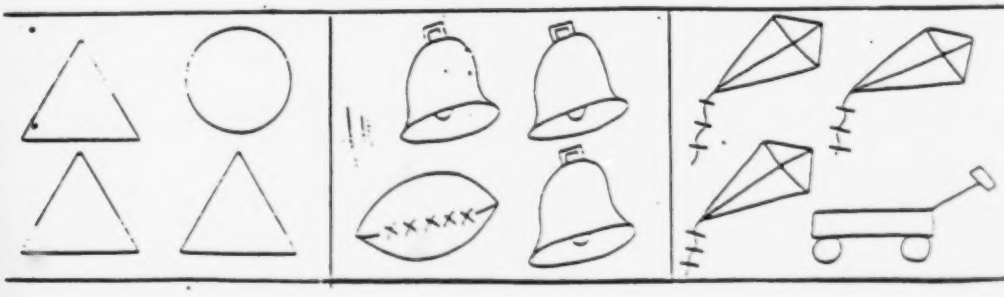
Directions: Draw a ring around the object on the left. Color the object on the right. (to be given orally)

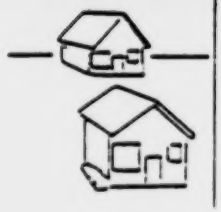


Directions: Color the objects that are exactly the same as the first object.



Directions: Put an X on the object that is different than the others.

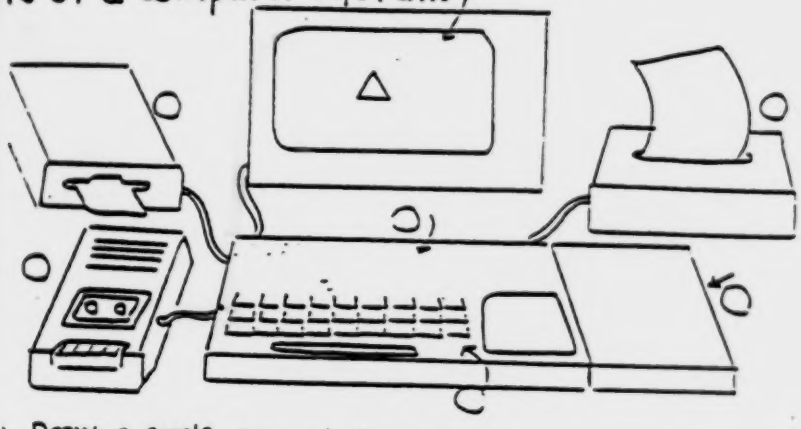




Circle the letter you hear :

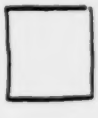
L E F S	D B P T	E H I L	R P A G

Parts of a Computer System:



1. Draw a circle around the computer
2. Color LOGO's turtle green.
3. Make an X on the monitor.
4. Color the keyboard yellow

Circle the correct answer :
Which is LOGO's turtle ?



?

What command do we use to erase everything on the scree

NT CS
NO ?

What do we use to make the turtle move without drawing ?

NT PU
DD ?

What can't a computer do ?

Draw

Read

Eat

?

DISTRICT 18

PROJECT Magic

EARLY CHILDHOOD LOGO II

APPENDIX B
63407

Name _____
Grade _____
School _____
(Administered Orally) Date

① Which do we use after each command?

○ FCTN ○ ENTER
○ SHIFT ○ ?

② In LOGO, the turtle is

○ ○ △
○ □ ○ ?

③ To make "turtle" appear, type

○ HELLO, TURTLE
○ TO TURTLE
○ TELL TURTLE
○ ?

④ Which command do we use to make the turtle disappear?

○ ST ○ HT
○ PD ○ ?

⑤ Which command tells turtle to go back?

○ FD ○ BK
○ LT ○ ?

⑥ To erase, press FCTN and

○ 4 ○ 3
○ 9 ○ ?

⑦ How many colors can our computer show?

○ 5 ○ 12
○ 16 ○ ?

⑧ To program turtle, type

○ HELLO TURTLE
○ TO TURTLE
○ TELL TURTLE
○ ?

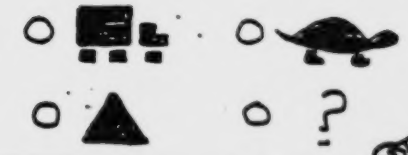
⑨ Which command would make the turtle turn?

○ RT 90 ○ BK 90
○ FD 50 ○ ?

⑩ Which tells turtle to make the biggest turn?

○ LT 300 ○ LT 210
○ LT 28 ○ ?

(11) Which is a LOGO sprite?



(12) To have a sprite come to the center of the monitor, type

- CENTER
- MIDDLE
- HOME
- ?

(13) Which are the "sprites" the computer knows?

(4) For a sprite to take a shape, type

- CARRY
- SHAPE
- BE A ___
- ?

(15) To make a sprite move, type

- MOVE
- SETSPEED
- SETHEADING
- ?

(16) LOGO has ___ 63407 sprites.

- 16
- 32
- 8
- ?

(17) To give a sprite color, type

- SC
- SH
- CS
- ?

(18) To erase everything on the screen, type

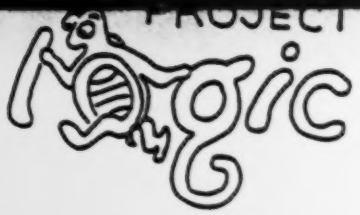
- SS
- CS
- SC
- ?

(19) To make a sprite disappear, type

- SCO
- SS
- SH
- ?

(20) To end work at the computer, type

- END
- FINISH
- BYE
- ?



PRETEST

APPENDIX C
63407

CITYWIDE UMBRELLA PROJECT
LOGO COMPUTER PROGRAM

Instructions - Darken the space next to the answer which best completes each statement. Pick the best answer, but do not guess. If you do not know the answer darken the space next to "don't know".

1. A computer is-

O a. a machine that can think

O b. a device for storing, updating and using information

O c. a mechanical brain

O d. don't know

2. All of these are computer languages except -

O a. logo

O b. telefon

O c. basic

O d. don't know

3. A simple language used to create graphics is -

O a. basic

O b. logo

O c. Sanskrit

O d. don't know

4. The physical equipment which makes up a computer system is called -

O a. hardware

O b. software

O c. silverware

O d. don't know

5. Discs, tapes and other programs are called

O a. media

O b. software

O c. hardware

O d. don't know

6. Input means -

O a. answers given by the computer

O b. electrical impulses from a computer

O c. data sent to the computer

O d. don't know

7. A keyboard is found on a

O a. piano

O b. computer

O c. typewriter

O d. all of the above

8. A computer program is

O a. what the computer tells you

O b. a set of instructions

O c. a t.v. program

O d. don't know

9. Diskettes and tapes can be used to..

O a. record programs

O b. play music

O c. wrap packages

O d. don't know

10. On the computer a "cursor" is

O a. an arrow

O b. a flashing box

O c. someone who says "bad" words

O d. don't know

11. In computer language a command is

O a. a direction that the computer already knows

O b. an instruction

O c. an order

O d. don't know

12. To use LOGO we need at least

- a. 32k
- b. 8k
- c. 16k
- d. don't know

13. In LOGO, a turtle is

- a. a triengle
- b. a small green animal
- c. a square
- d. don't know

14. To make "turtle" appear type -

- a. HELLO, TURTLE
- b. TO TURTLE
- c. TELL TURTLE
- d. don't know

15. To program "turtle" which command should you use?

- a. RUN
- b. TO___
- c. TELL TURTLE
- d. don't know

16. To make the "turtle" invisible type in -

- a. NO TURTLE
- b. TELLSPRITE
- c. HIDE TURTLE
- d. don't know

17. To make "turtle" move without writing, type...

- a. DON'T WRITE
- b. PENUP
- c. PENERASE
- d. don't know

18. The commands FD50, RT72, D50, RT72, FD50, RT72, FD50, RT72, FD50, RT72 will make a

- a. pentagon
- b. circle
- c. square
- d. don't know

19. In TI LOGO, a "sprite" is

- a. a ghost
- b. an invisible thing you can talk
- c. a soft drink
- d. don't know

20. "OUT OF INK" means...

- a. needs more information
- b. does not understand
- c. has used up all available memory
- d. don't know

21. How many colors are available on our computer?

- a. 5
- b. 16
- c. 32
- d. don't know

22. LOGO has _____ "sprites"

- a. 5
- b. 16
- c. 32
- d. don't know

23. How many "sprites" does LOGO already know the shape of?

- a. 5
- b. 16
- c. 32
- d. don't know

24. To make "sprites" move, type...

- a. RUN
- b. SETSPEED
- c. SETHEADING
- d. don't know

25. The command to give a "sprite" a shape is...

- a. CARRY
- b. SHAPE
- c. SETSHAPE
- d. don't know

DISTRICT 18

PRETEST 2

Instructions: Darken the space next to the answer which best completes each statement. Pick the best answer, but do not guess. If you do not know the answer darken the space next to "don't know."

1. A program for a square might read

   O REPEAT 4 [RT 45 FD 90]
   O REPEAT 4 [LT 90 FD 30]
   O REPEAT 4 [LT 60 FD 20]
   O don't know

2. The following program will create:

   RT 30
   FD 40
   RT 120
   FD 40
   RT 120
   FD 40

   O an equilateral triangle
   O an isosceles triangle
   O a parallelogram
   O don't know

3. A protractor is used to measure

   O diameter
   O area
   O angles
   O don't know

4. Which is not a polygon?

   O a pentagon
   O a circle
   O a decagon
   O don't know

5. If REPEAT 360 [FD 1 RT 1] makes a large circle, which of the following will make the smallest circle?

   O REPEAT 60 [FD 1 LT 6]
   O REPEAT 180 [FD 1 RT 2]
   O REPEAT 36 [FD 3 RT 10]
   O don't know

6. Which of the following would make a half circle?

   O REPEAT 90 [FD 1 RT .1]
   O REPEAT 90 [FD 1 RT 2]
   O REPEAT 45 [FD 1 RT 2]
   O don't know

7. In using Cartesian coordinates....

   O The x axis is the horizontal axis
   O The x axis is the vertical axis
   O The x axis bisects the grid
   O don't know

8. Logo can be used to...

   O add and subtract
   O multiply and divide
   O both add and subtract and multiply and divide
   O don't know

9. The command SXY

   O sets the horizontal coordinates
   O sets the horizontal and vertical coordinates
   O sets the vertical coordinate
   O don't know

10. Sprite 6 is...

    O a car
    O unknown
    O a ball
    O don't know

11. A sprite with an SXY of -30, 20 would be located in the...

- O upper right quadrant
- O lower right quadrant
- O upper left quadrant
- O don't know

12. Sprites can be placed using

- O turtle commands (FD, BK, LT, RT)
- O NORTH, SOUTH, EAST and WEST
- O SX, SY and SXY
- O all of the above

13. When all sprites have been stopped by FREEZE, the command to get them going again is....

- O move
- O thaw
- O start
- O don't know

14. The command SV stands for

- O set vertical
- O set velocity
- O set volume
- O don't know

15. You could create your initials on the screen using

- O turtle graphics
- O sprites
- O characters
- O all of the above

16. An error message occurs when

- O the computer makes a mistake
- O the circuits are overloaded
- O the computer cannot follow your instructions
- O don't know

17. Which of the following was not involved in the development of the computer?

- O Albert Einstein
- O Ada Lovelace
- O Herman Hollerith
- O don't know

18. Which of the following was not an early computer?

- O Eniac
- O Compusac
- O Mark I
- O don't know

19. Hollerith's system involved

- O the calculator
- O the abacus
- O punch cards
- O don't know

20. Which of the following is not a computer related career?

- O systems analyst
- O computologist
- O data processor
- O don't know

#5001-48-63409

TUTORING: WALK AND TALK PROGRAM, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: David Fong

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Tutoring: Walk and Talk Program provides individualized and small-group instruction in English as a Second Language to elementary school pupils in Community School District (C.S.D.) 2. Approximately 200 pupils in grades one through six took part in the after-school program during 1985-86. The students were recent immigrants to the United States mainly from China and Southeast Asia. "Walk and Talk" field trips are used to acquaint participants with the city and encourage them to speak English.

In 1985-86, pupils from three elementary schools took part in project activities. They were selected on the basis of teacher recommendations, scores on the Language Assessment Battery (LAB), and other measures of language proficiency. Project activities included an orientation to American culture, individual and group work in reading and language arts, assistance with homework, and "Walk and Talk" trips. Contact hours ranged from 80 to 160 hours, depending on students' needs.

The program objective was for 80 percent of participants to improve their language skills as measured by their performance on a standardized test of language achievement. Project staff

consisted of one coordinator, seven teachers, ten educational assistants, ten student aides, and a family worker. The program received $36 thousand in funding from the New York State Legislature.

EVALUATION METHODOLOGY

Project impact was assessed by analysis of students' scores on the Stanford Achievement Test (S.A.T.), Primary 1, Form E, given to all participants on a pre- and posttest basis at the beginning and end of the program. For reading performance, pupils were tested with the Word Reading and Reading Comprehension subtests; and for listening performance with the Vocabulary and Listening Comprehension subtests of the S.A.T. All scores were analyzed in raw form because the S.A.T. is not normed for use with English as a Second Language students.

FINDINGS

Complete test scores were available for 152 pupils. Table 1 reports the performance of students on the Reading subtest of the S.A.T. Overall, mean pretest raw score was 14.1 points and mean posttest raw score was 53.6 points for a gain of 39.5 raw score points. In general, mean pre- and posttest scores were lower for lower grades and tended to increase in higher grades. Although students in all grades performed remarkably well, fifth graders outperformed other grades, making the greatest test scores both

TABLE 1

Students' Mean Raw Scores on the Reading Subtests[a] of the Stanford Achievement Test, by Grade
Tutoring: Walk and Talk Program, 1985-86

Grade	N	Mean Pretest	Mean Posttest	Mean Gain
1	19	5.7	34.7	29.0
2	16	7.9	42.4	34.5
3	16	15.4	54.0	38.6
4	37	13.6	54.1	40.5
5	31	20.9	66.1	45.2
6	33	15.6	57.5	41.9
TOTAL	152	14.1	53.6	39.5

[a]Word Reading - Perfect Score = 33.
Reading Comprehension - Perfect Score = 40.
Students' scores represent the sum of these two scales.

- Overall, mean gain was 39.5 points.
- Mean gains ranged from 29 raw score points to 45 raw score points.

on the pre- and posttest and achieving the greatest mean gain of 45.2 points.

Table 2 presents mean raw scores on the Listening subtest of the S.A.T. All grades achieved mean gains, with the highest mean gain occurring in grade five (28.4 points) and the lowest in grade two (13.1 points). Overall, mean pretest raw score was 8.9 points, and mean posttest raw score was 27.9 points for a mean gain of 19 points. In this subtest, as for reading, fifth-graders outperformed other grades. Tables 3 and 4 present the frequency distribution of students' gains. All participants (100 percent) improved their performance on the reading subtests at posttest, and about 98 percent achieved gains on the listening subtests of the S.A.T. Participants, thus, met the project-set criterion.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation findings indicate that Tutoring: Walk and Talk Program was successful in meeting its objective. Students in all grades showed a dramatic improvement in their performance on the S.A.T. Student gains were greater on the Reading subtests than on the Listening subtests but, in both cases, gains were unusually large.

These findings, however, must be interpreted with caution. The S.A.T. was not intended to be used with English as a Second Language pupils who also received instruction in English in their regular classes. Thus, their performance cannot be solely

TABLE 2

Students' Mean Raw Scores on the Listening Subtests[a] of the Stanford Achievement Test, by Grade
Tutoring: Walk and Talk Program, 1985-86

Grade	N	Mean Pretest	Mean Posttest	Mean Gain
1	19	4.8	20.5	15.7
2	16	5.1	18.2	13.1
3	16	9.5	27.1	17.6
4	37	8.5	24.0	15.5
5	31	12.9	41.3	28.4
6	33	9.3	28.6	19.3
TOTAL	152	8.9	27.9	19.0

[a]Vocabulary - Perfect Score = 38;
Listening Comprehension - Perfect Score = 28.
Students' scores represent the sum of these two scales.

- Students in all grades achieved large gains.
- Fifth-graders outperformed other grades.

TABLE 3

Frequency Distribution of Students' Gains
on the Reading Subtests of the Stanford Achievement Test
Tutoring: Walk and Talk Program, 1985-86

Gain	N	Percent
0	0	0.0%
1-20	8	5.3
21-40	60	39.5
41-60	82	53.9
61 and over	2	1.3
TOTAL	152	100.0

- All students (100 percent) improved their performance on the reading subtests of the S.A.T., meeting the project objective.

TABLE 4

Frequency Distribution of Students' Gains
on the Listening Subtests of the Stanford Achievement Test
Tutoring: Walk and Talk Program, 1985-86

Gain	N	Percent
0	2	1.3%
1-20	87	57.2
21-40	59	38.8
41-60	4	2.6
61 and over	0	0.0
TOTAL	152	100.0

- About 98 percent of participants achieved gains on the listening subtests of the S.A.T., meeting the project objective.

attributed to the program. Further, the administration of only one test level (Primary I, Form E which was designed for grades one and two) to all students, irrespective of grade level, explains the unusually large gains achieved by participants. In the future, project staff should substitute a more appropriate testing instrument for the Stanford Achievement Test. Two tests have been especially designed for LEP students: the Language Assessment Battery (1982) and the Maculaitis Assessment Test. In addition, the program objective should be expanded to include a specific quantitative measure of program success. Finally, since students achieved higher gains on the Reading than on the Listening subtest, project activities should have a greater emphasis on oral language instruction.

#5001-48-63410

IMPROVING COMPETENCY SKILLS, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Judith D. Murphy

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Improving Competency Skills Program is designed to provide basic reading and mathematics skills instruction to in- and out-of-school youth and adults. The goal is to help participants to further their education and improve their competency in seeking better educational and employment opportunities. Using an individualized, diagnostic-prescriptive approach, the project also seeks to prepare participants for passing the General Education Development Test, Civil Service Exams and similar entrance examinations.

In 1985-86, about 110 youths and adults participated in the program. Adults were chosen among those who needed to develop their skills in reading and/or mathematics. High school students, in grades nine to 12, were recommended for participation in the program by school teachers, counselors and parents. Those individuals showing the greatest educational need were given priority in placement. The objective of the project was for participants to achieve an increase in reading or mathematical skills as measured by the Official General Educational Development (G.E.D.) Practice Test.

Classes for both adult and high school participants were held at Truman High School, Roosevelt High School and Bronx Center for Youth. Adult participants attended evening classes two nights a week for two-hour sessions. High school students attended two-hour sessions, meeting two days a week after regular school hours. To facilitate individualized instruction, each session had less than 20 participants. The program curriculum consisted of mathematics concepts, arithmetic operations and computer-based instructional activities. It also focused on reading comprehension, vocabulary development and word usage skills. Classroom materials included education kits, G.E.D. texts, duplicating materials, and mini computers. Project staff consisted of three teachers and one supervisor. The New York State Legislature contributed $14 thousand in funding.

EVALUATION METHODOLOGY

The evaluation of the project was based on analyses of participants' scores on the Mathematics and Reading subtests of the G.E.D. Practice Test. The Mathematics subtest consists of 25 problems with multiple-choice responses and the Reading subtest consists of 20 multiple-choice items based on selections from diverse reading materials. Both tests were administered on a pre-and posttest basis at the beginning and end of the project. Pretest and posttest raw scores were compared and correlated *t*-tests were computed to establish if achievement differences were

statistically significant. Effect size (E.S.)* which indicates the educational meaningfulness of the mean gain or loss for each comparison was also calculated.

FINDINGS

Complete test scores were submitted for 110 participants for the Mathematics subtest and for 88 participants for the Reading subtest. No reading scores were provided for participants at Truman High School. Table 1 shows test outcomes on the Mathematics subtest. Overall, mean pretest score was nine points, mean posttest score was 14.5 points for a statistically significant and educationally meaningful mean gain of 5.5 points. Participants at Roosevelt High School made the lowest mean pretest score (6.5) points but achieved the largest gain. The effect size for all three sites was consistently large, ranging from 1.4 to 2.6

Table 2 presents raw scores on the Reading subtest for participants in Roosevelt High School and Bronx Center for Youth. Overall, mean pretest score was 7.3 points, mean posttest score was 11.8 points for a statistically significant and educationally

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*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

TABLE 1

Participants' Mean Raw Scores on the Mathematics Subtest[a] of the Official General Educational Development Practice Test, by Site Improving Competency Skills, 1985-86

Site	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[b] Mean	Difference[b] S.D.	Effect Size
Truman H.S.	21	12.8	4.6	17.0	3.7	4.2	3.1	1.4
Roosevelt H.S.	61	6.5	2.3	13.0	4.1	6.5	2.5	2.6
Bronx Center for Youth	28	11.6	3.9	15.8	3.8	4.2	1.7	2.5
TOTAL	110	9.0	4.3	14.5	4.3	5.5	2.7	2.0

[a]Perfect Raw Score = 25.
[b]These gains were significant at $p \leq .05$.

- Participants in all sites achieved statistically significant gains.
- Effect size was large, indicating that participants' gains were educationally meaningful.

TABLE 2

Participants' Mean Raw Scores on the Reading Subtest[a] of the Official General Educational Development Practice Test, by Site Improving Competency Skills, 1985-86

Site	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Difference[b] Mean	Difference[b] S.D.	Effect Size
Roosevelt H.S.	60	5.5	2.3	10.5	2.7	5.0	1.7	2.9
Bronx Center For Youth	28	10.9	2.9	14.3	3.2	3.4	2.3	1.5
TOTAL	88	7.3	3.6	11.8	3.3	4.5	2.1	2.2

[a]Perfect Raw Score = 20.
[b]These gains were significant at $p \leq .05$.

- Participants in all sites achieved statistically significant and educationally meaningful mean gains.
- Roosevelt High School participants achieved a greater mean gain and effect size.

meaningful mean gain of 4.5 points. Participants at the Bronx Center for Youth made the largest pretest mean score but achieved a gain lower than participants at Roosevelt High School who achieved a greater mean gain. Effect size was large for both sites.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation findings indicate that the Improving Competency Skills Program met its objective. Participants achieved statistically significant gains on both the Mathematics and Reading subtests of the G.E.D. Furthermore, effect size on both subtests and for students in all sites was consistently large, indicating the importance of the changes to the participants' educational development. In the future, however, project staff should expand the program's objective to include a quantifiable measure of successful program completion. For instance, the following sentence could be added to the objective: "Participants will achieve a mean gain of at least five points in reading and/or mathematics skills." It would also be helpful to distinguish between in-school youths and out-of-school youths and adults because the former also receive regular classroom instruction in reading and mathematics which places them in an advantageous position vis-a-vis out-of-school youths and adults. These modifications will contribute to future evaluations of project impact.

#5001-48-63420

COMPUTER WORD PROCESSING PROGRAM, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Gil Turchin

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROGRAM DESCRIPTION

The Computer Word Processing Program is designed to improve the writing skills of students at Joan of Arc Junior High School at Community School District (C.S.D.) 3. The goal of the program is to motivate participants by providing them with immediate positive feedback on their work. In order to accomplish this, students were taught to write, edit, and print their work with word processing equipment.

In 1985-86, 106 students, in grades seven through nine, participated in the project. Pupils with below average scores on citywide reading tests were selected for program participation.

A classroom was equipped with eight Apple computers and four printers. A word processing program, written by a professor at Teachers College, was used to help students edit their papers for spelling and grammar mistakes. An additional computer program, CATCH, was also used to edit original text. Participants worked on the computers for 45 minutes every school day throughout the year. Project staff consisted of one instructor. The New York State Legislature contributed $50 thousand to the program.

The project objective was for participants to demonstrate an increase in written communication skills as measured by a Writing Assessment Test.

EVALUATION METHODOLOGY

Evaluation activities focused on the analysis of students pre- and post-program writing scores. Participants' writing samples were holistically rated on a four-point scale with four assigned to a superior paper, three to a satisfactory or adequate paper, two to a weak paper, and one to a poor paper. Zero was reserved for blank papers and papers off the topic (see Appendix A). Students' gains from pre- to posttest were calculated by grade level and correlated *t*-tests were computed to determine statistical significance. Effect size (E.S.)* which indicates the educational meaningfulness of the mean gain or loss for each comparison was also calculated.

FINDINGS

Complete writing scores were submitted for 106 students (see Table 1). Participants in all three grade levels achieved statistically significant gains. Overall mean gain was one.

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*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

TABLE 1

Students' Mean Holistic Scores on a Writing Assessment Test, by Grade
Computer Word Processing Program, 1985-86

Grade	N	Pre-Program Mean	Pre-Program S.D.	Post-Program Mean	Post-Program S.D.	Difference[a] Mean	Difference[a] S.D.	Effect Size
7	67	2.2	.9	3.2	.8	1.0	.8	1.2
8	31	2.2	.6	3.2	.6	1.0	.7	1.5
9	8	2.3	.5	3.4	.7	1.1	1.0	1.1
TOTAL	106	2.2	.8	3.2	.7	1.0	.8	1.2

[a]All gains were statistically significant at $p \leq .05$.

- Students in all grade levels achieved statistically significant gains; with a mean gain of one raw score point.
- Effect size was large for all grades.

Pre-program mean scores by grade were about 2.2 points and post-program mean scores ranged from 3.2 to 3.4 points. Effect size was large for all grades.

CONCLUSIONS AND RECOMMENDATIONS

The Computer Word Processing Program was a successful program having an impact on the writing skills of participating students. Upon entering the program, these pupils received an average rating of about two points, indicating that they were writing weak papers. By the time they completed the program, they were writing satisfactory papers. Furthermore, student improvement was both significant and educationally meaningful.

In the future, however, project staff should expand the project objective to include a statistically significant and educationally meaningful mean gain from pretest to posttest. The following sentence could be added to the objective: "participants will achieve a mean gain of at least one point."

COMPUTER WORD PROCESSING PROGRAM

EVALUATION - 1985-86

RATIONALE FOR THE WRITING ASSESSMENT

It is important to be able to express one's thoughts and feelings clearly in writing. The information obtained from this assessment will help teachers plan instructional programs to be implemented during the year in order to improve student writing performances.

SCORING THE WRITING SAMPLES HOLISTICALLY

The Writing Samples are to be scored holistically. Holistic scoring is that method which assesses writing for its total effect including both content and manner of expression. The student paper is read and its total impact evaluated. The separate elements of writing, such as organization, syntax and spelling, are not as important as the overall quality of the response.

The writing sample is rated on a four-point scale, with 4 assigned to a superior paper, 3 to a satisfactory or adequate paper, 2 to a weak paper and 1 to a poor paper. Zero is reserved for blank papers and papers off the topic. For specific criteria in assigning scores, refer to Criteria for Rating Student Responses (p. 6) and to the Graded Model Writing Sample for each rating. (p. 9-13).

Ideally, the holistic scoring session is conducted with members of a department, school or district brought together for this purpose. Each paper is scored by at least two teachers who do not know the student's identity or the mark that the other teacher has assigned. The student's final rating is the sum of the two scores.

The first scorer records the score in the first circle at the bottom of the student booklet and initials in the square below the circle (see p. 8). In order to ensure that the second reader will not be influenced by the first reader's judgment, the first filled-in circle and square are folded over or covered up. The second scorer then uses the second circle and square.

A third person then looks at both scores. If the two scores are identical or one digit apart, they are added and the sum recorded in the large circle at the end of the row. For instance, if scores are 2/2 or 2/3, the student's rating is recorded in the large circle as 4 or 5 respectively.

However, if the two scores are discrepant (1/3, 2/4, etc.), they are both covered or folded over. Then the writing sample is rescored by a third scorer or by the chief reader reading more slowly. This third score is recorded in the next circle. The final scores is determined by the method outlined on page 5.

SCORING SESSION

The trainer will:

1. Open writing booklets and shuffle so that no one class set is intact.

2. Distribute the booklets and request scorers to refrain from reading the student's name on the booklet to be scored.

3. Indicate in the writing booklet the circle where the first score is to be recorded and the box below it where the first scorer's initials are to be entered.

4. Demonstrate how to conceal the first score from the second scorer.

5. Have the first scorers read and score the test booklets. Each booklet will be scored from 1 to 4 and the score recorded in the first circle with the scorer's initials entered in the box below that circle.

6. Have the first scorers then pass the scored booklets to the second scorers. The second scorers follow the same procedure as the first scorers but enter the writing sample score and initial in the second circle and box below it.

7. Collect the booklets that have been scored independently by two scorers.

8. Examine or assign personnel to examine all the colleected scored booklets to determine the final rating for each booklet. (NOTE: The final rating can range from 0 to 8.)

   a. If the two scores are identical or adjacent (e.g., 2/2 or 2/3), the two scores are added and the sum, which constitutes the student's writing sample rating, is entered in the large circle in the test booklet.

   b. If the two scores are discrepant (e.g., 1/3 or 2/4), the recorded are both covered and the Writing Sample is rescored by a third scorer or the chief scorer. This third score is recorded in the third circle.

9. Examine or assign personnel to examine all the booklets that have been rescored by a third scorer to determine the final rating for each booklet. The fianl rating is determined by the method outlined on page 5.

Method for Using Third Rating To Resolve Discrepant Scores

Steps:

a. Compare the three ratings.
b. If two or the three scores agree, drop the discrepant score.
c. If two or the three scores are contiguous, drop the most discrepant score.
d. If the third rating is the middle score, double the third rating and drop the two divergent scores.

Examples:

Rater 1	Rater 2	Rater 3	Resolved scores for response	Reason
1	3	If 1, then	1/1	Agreement (2 of the 3 scores agree, discrepant score dropped)
		If 2, then	2/2	Middle score (Score between divergent scores doubled, divergent scores dropped)
		If 3, then	3/3	Agreement (2 of the 3 scores agree, discrepant score dropped)
		If 4, then	3/4	Contiguous (2 nearest scores used, most discrepant score dropped)
1	4	If 1, then	1/1	Agreement
		If 2, then	1/2	Contiguous scores
		If 3, then	3/4	Contiguous scores
		If 4, then	4/4	Agreement
2	4	If 1, then	1/2	Contiguous scores
		If 2, then	2/2	Agreement
		If 3, then	3/3	Middle score doubled
		If 4, then	4/4	Agreement

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STUDENT WRITING PROFILE GUIDE

(Required for students with a combined rating of 4 or below)

Name _____ School _____ Grade _____ RATING Fall ____ Spring ____

	Fall 1982			Spring 1983
	Check box that applies.	Comments	Possible Remedies	Check box that applies.
1. Addresses the task interestingly, appropriately adequately minimally or with digressions	☐ ☐ ☐			☐ ☐ ☐
2. Develops the topic logically, sequentially, relevantly adequately poorly, lacking organization or significant details	☐ ☐ ☐			☐ ☐ ☐
3. Constructs sentences skillfully and/or with appropriate variety adequately poorly, with some run-ons and/or inappropriate fragments.	☐ ☐ ☐			☐ ☐ ☐
4. Chooses words that are specific, appropriate, vivid adequate imprecise, trite, immature, or inappropriate.	☐ ☐ ☐			☐ ☐ ☐
5. Mechanical Errors	Some / Many			Some / Many
Usage	☐ ☐			☐ ☐
Spelling	☐ ☐			☐ ☐
Punctuation and Capitalization	☐ ☐			☐ ☐
Handwriting	☐ ☐			☐ ☐
Omissions	☐ ☐			☐ ☐
6. Other concerns				

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#5001-48-63422

STUDENTS-PARENTS AS PARTNERS, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Carmen Hardy

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Students-Parents as Partners Program provides after-school instruction in reading and mathematics to pupils in grades three through six at P.S. 54 in Community School District 13. The purpose of the program is twofold. First, to provide children with an additional opportunity to improve their educational skills. Secondly, working with parents, acting as volunteer English tutors, to help limited English proficient children function better in the educational process. Students receive individualized and small-group instruction based on a diagnostic-prescriptive approach. A second component trains parent volunteers as tutors in English as a Second Language (E.S.L.) classes.

In 1985-86, some 95 students participated in the program. Pupils were selected for participation on the basis of their need for remedial instruction as determined by their school records and referrals made by the school principal, guidance counselor, and teachers. Parents were recruited among volunteers according to recommendations made by the community relations teacher. Five parents were trained to assist in project activities as tutors in E.S.L. classes. Students attended two-hour sessions twice a

week. Project staff consisted of two teachers, a parent program assistant, two educational assistants and one teacher-trainer. The New York State Legislature provided $25 thousand to fund the project.

The project objective for 1985-86 was to improve students' performance in mathematics and language arts. Specifically, participants were to demonstrate improvement, as measured by their pretest and posttest scores, on project-developed achievement tests of reading and mathematics.

EVALUATION METHODOLOGY

Project impact was assessed by analyses of student performance on project developed tests of reading and mathematics. Two forms were prepared for each test. One for third and fourth graders (See Appendix A), and another for fifth and sixth graders (See Appendix B). The tests were administered on a pretest and posttest basis in October 1985 and May 1985, respectively.

FINDINGS

Pre- and posttest scores for 95 students were submitted for evaluation. Table 1 shows pupil performance on the reading test by grade. All students achieved gains, ranging from 29.5 percent to 36.5 percent. Gains increased consistently according to grade; third graders made the lowest and sixth graders the greatest improvement.

TABLE 1

Students' Mean Raw Scores on Program-Developed Reading Tests[a], by Grade
Students-Parents as Partners, 1985-86

Grade	N	Pretest		Posttest		Gain	
		Raw Score	Percent Correct	Raw Score	Percent Correct	Raw	%
3	25	7.1	35.5%	13.0	65.0%	5.9	29.5%
4	23	9.9	49.5	16.3	81.5	6.4	32.0
5	20	8.7	43.5	15.5	77.5	6.8	34.0
6	27	9.5	47.5	16.8	84.0	7.3	36.5

[a]The Reading test consists of two different forms: one for grades three and four; another for grades five and six. Perfect raw score for each test = 20.

- All students achieved gains from pretest to posttest, ranging from 29.5 percent points to 36.5 percent points.

In mathematics, the gains were greater, ranging from 3.3 percent to 3.7 percent (see Table 2). Again, third graders made the lowest scores and gains. Grade four students made the highest scores (41 percent at pretest and 78 percent at posttest) and achieved the highest gain (37 percent).

CONCLUSIONS AND RECOMMENDATIONS

The Students-Parents as Partners Project was successful since it achieved its objective of improving student performance in reading and mathematics. Pupils in all grades showed improvement in both these areas, especially in mathematics where they achieved greater gains than in the reading test. In the future, however, project staff should set a quantifiable measure of student improvement (for example, 80 percent of participants will gain at least 30 percent from pretest to posttest on project-developed tests of reading and mathematics). It might also be worthwhile to evaluate the impact of the parent tutors on project success. An evaluation design, including a criterion-referenced test and a quantitative performance objective, could be developed for this project component.

TABLE 2

Students' Mean Raw Scores[a] on Program-Developed Mathematics Tests[a], by Grade
Students-Parents as Partners, 1985-86

Grade	N	Pretest		Posttest		Gain	
		Raw Score	Percent Correct	Raw Score	Percent Correct	Raw	%
3	25	4.0	20.0%	10.6	53.0%	6.6	33.0%
4	23	8.2	41.0	15.6	78.0	7.4	37.0
5	20	6.0	30.0	13.1	65.5	7.1	35.5
6	27	6.7	33.5	13.6	68.0	6.9	34.5

[a]The Mathematics test consists of two different forms: one for grades three and four; another for grades five and six. Perfect raw score for each test = 20.

- Students in all grades achieved gains above 30 percent points.

APPENDIX A

STUDENTS-PARENTS AS PARTNERS
P.S. 54K
READING (Grades 3-4)

Name: _____ Date: _____

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1. The girl was mad at her brother. "You should not have played my new banjo." She said. "I wanted to try it out first, and I have not had time to use it yet." A good title for this story is:

   A) My Brother B) The New Banjo C) More Time for Him

2. The big gray whale cannot breathe under the water. She must come up to the top of the ocean for air. There, she uses the blow holes on her head. A good title for this story is:

   A) How Whales Breathe B) At the Top C) In the Ocean

3. A sad seal sat on the rocks. She wanted something to eat. "Come back into the water, a whale called to her." "I see many kinds of fish thay you would like." A good title for this story is:

   A) On the Rocks B) The Whale and the Seal C) Kinds of Fish

4. Sometimes my dog is bad. He tries to bite my fingers or my nose. I tell him to go play with another boy. A good title for this story is:

   A) Another B) My Bad Dog C) My Fingers

5. I saw a white bird flying high in the sky. I wanted to find out where he was going. I went after him. He led me all the way to the ocean. A good title for this story is:

   A) The Sky B) Flying C) The White Bird

6. He wants to put on his hat and walk out into the wind. What may happen to him? His hat may _____.

   A) Bow Down B) Brush Back C) Blow Away

7. Thomas Jefferson was our third president. While he was in the White House, he had to give many dinners and parties. Jefferson's wife had died and he had no hostess. He turned to Dolly Madison, the wife of the Secretary of State, James Madison. She became the hostess. People from all over the world came to see the president. Dolly greeted them and gave parties that made her famous. When her husband James became president, Dolly continued to give her dinner parties. She set the style for the president's parties for a hundred years.
   What do you understand from this paragraph?

   A) Dolly Madison was a secretary. B) She planned good parties.

   C) Jefferson died in office. D) Dolly liked to eat.

8. She does not want to have long hair. It always falls into her eyes. What should she do? She should _____.

A) Cut It B) Stand Up C) Go There

9. My dog wants to eat. He does not have a knife. How can he cut his meat? He can use his _____.

A) Hair B) Comb C) Teeth

10. The duck went to the lake. He wants to get wet. What will he do? He will _____.

A) Sleep B) Eat C) Swim

11. I have no time to sit. I have to talk. I have little time to eat. Do you know why? I am _____.

A) Sleeping B) Quiet C) Busy

12. This movie is very bad. I do not like it at all. I will not sit through it again. Why not? I _____.

A) Hate it B) Have them C) Want it

13. Audrey was always playing tricks on her brother, Sam. When he got up this moring, guess what he found under his pillow?

A) a frog B) a sheet C) a blanket

14. "I can't hear the music on the radio with all that noise outside," Jane thought. So she went to the window and closed it. "No more car horns, trucks and bus motors, or people talking loudly. Now I can hear my music," she said.
Where does Jane live?

A) in the country B) in the city C) on a mountain

15. We <u>bumped</u> into each other at the store means

A) We met each other. B) We hurt each other. C) We crashed.

D) We hit each other.

16. Don't <u>horse around</u> in school means

A) No horses in school B) Don't ride around school on a horse

C) Don't fool around in school D) No round horses are near school

17. Nancy opened the front door, walked into the kitchen and put her bundles on the table. "Awfully quiet around here," she thought as she wiped the sweat from her face. "I wonder where Mike is?" She looked all over the house for him. In the bathroom, she saw a towel was missing. In the bedroom, she saw a drawer open. She looked into it and saw that Mike's bathing suit was not there.
Where was Mike?

A) He went to the office.
B) He went swimming.
B) Mike went on a trip.
C) Mike went to sleep.

Map Skills

18. I live in the city of _____.

19. The state I live in is _____.

20. The name of my country is _____.

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STUDENTS-PARENTS AS PARTNERS
P.S. 54K
MATHEMATICS (Grades 3-4)

Name: _____ Date: _____

1) 73 +14 = ___ a) 87 c) 60 e) NG b) 97 d) 61	2) 29 +32 = ___ a) 17 c) 57 e) NG b) 511 d) 61	3) 14+29 = □ a) 15 c) 313 e) NG b) 43 d) 163	4) 452 +451 = ___ a) 803 c) 001 e) b) 803 d) 903
5) 1471 +1229 = ___ a) 2258 c) 2690 e) NG b) 2910 d) 1700	6) 56 −12 = ___ a) 48 c) 34 e) NG b) 44 d) 68	7) 71−19 = □ a) 52 c) 90 e) NG b) 68 d) 62	8) 783 −160 = ___ a) 943 c) 623 e) b) 620 d) 623
9) 117−23 = □ a) 140 c) 147 e) NG b) 84 d) 347	10) 402 −191 = ___ a) 593 c) 891 e) NG b) 211 d) 391	11) 4 ones and 5 Tens = ___ a) 9 c) 20 e) NG b) 54 d) 1	12) 3 ones 8 hundred 6 Tens = ___ a) 17 c) 683 e b) 386 d) 863
13) Seven thousand one hundred = ___ a) 7001 c) 70,100 e) NG b) 7100 d) 7010	14) The greatest number shown by using the digits 1, 7, 3 only once each is ___	15) 32 Tens = ___	16) Peter has 43 cents. Sh Spends 8 cen How much do she have lef ___
17) Jim took 2 pencils from a box of 1 dozen. How many pencils were left?	18) Which of these numbers is the largest? a) 623 c) 907	19) Complete the Pattern 21, 24 ___, 30 ___	20) Complete t Pattern 41, 39, ___, ___

APPENDIX B

STUDENTS-PARENTS AS PARTNERS
P.S. 54K
READING (Grades 5-6)

Name: _____ Date: _____

Terry was not a dog who could pass up a free meal, especially a meal of freshly broiled hamburgers. Mr Frank had just cooked a dish of them for his guests. The hamburgers sat piled high on a platter on the dining room table. The guests were in the living room listening to tales of Terry's adventures. Terry was alone under the dining room table.

1. What probably happened next?

A) Terry jumped onto the table and ate the hamburgers.

B) All the people ate hamburgers except Terry.

C) Terry sat on a chair and waited to be fed.

D) Terry ate at a restaurant.

The next morning Susan waited and waited for Jamie to walk to school with her. Finally at a quarter after eight, she gave up. Susan ran down the street to meet Pam. By running almost the whole way, the two girls got to school on time. Jamie wasn't there. But then just as the last bell rang, Jamie rushed into the room and slid into her seat. It wasn't until recess that Susan had a chance to ask Jamie why she had been so late.

"I forgot my baseball glove," Jamie said. "I had to go all the way back home to get it. We only have four more days to practice before our big game with Mr. Shock's room." Pam joined them. "Why did you have to go home for your glove? Why couldn't you borrow somebody else's when it's your turn to catch?" "I'm the only one on the team that's left-handed," Jamie said, "I have to have my own glove. But it's getting worn out. It isn't much good anymore. I wish I could get a new one."

After lunch Miss Kirby sat down quietly at the desk and began marking papers. Susan raised her hand, but Miss Kirby didn't see it. Then she cleared her throat, shuffled her feet, and waved her hand wildly. Miss Kirby looked up. "Yes, Susan, what is it?" She said.

2. Pam and Susan ran all the way to school because

A) They were having a race. B) They didn't want to be late.

C) Some other children were chasing them.

D) They saw a sign that said, Don't Walk.

3. Which sentence tells that Jamie got to school just in time?

   A) Jamie rushed into the classroom just as the last bell rang.

   B) Jamie didn't get to school until recess.

   C) Jamie didn't have a chance to get into her seat.

   D) Jamie took her time walking to school.

4. When did Jamie explain to Susan why she didn't meet her to walk to school?

   A) after school was over for the day.

   B) the next morning

   C) at recess

   D) during the practice for the big game

5. Jamie is different from everyone else on the baseball team because

   A) she is able to run very fast

   B) she is the tallest person on the team

   C) she is the only person on the team who is left-handed

   D) she never goes to the practices or keeps training rules

6. According to the story, being left-handed makes it impossible for Jamie to _____.

   A) get to school on time

   B) practice for more one hour

   C) catch a ball

   D) borrow somebody else's baseball glove

7. Jamie would like to get a new baseball glove because _____

   A) hers is old and has been used a lot

   B) hers doesn't fit anymore

   C) hers was stolen

   D) hers is the wrong color

and old stone wall. In that wall, not far from the barn and the granary, a chatty family of field mice had their home. But the farmers had moved away, the barn was abandoned, and the granary stood empty. And since winter was not far off, the little mice began to gather corn and nuts and wheat and straw. They all worked day and night.
All - except Frederick.

8. The best name for this story is

A) Summer Is Here B) Away All Boats C) In the City

D) Preparing for Winter

9. The mice lived in a(an)

A) automobile B) hole in the roof C) old stone wall

D) new house

10. In this story, the word gather means

A) cry B) to collect C) to fly D) sell

11. All the mice worked except

A) the old ones B) Frederick C) Alvin D) the farmers

12. In winter, the farm was probably a

A) lonely place B) health farm C) warm place D) fancy place

A Modern Dragon by Rowena Bastin Bennet

A train is a dragon that roars through the dark.
He wriggles his tail as he sends up a spark.
He pierces the night with his one yellow eye.
And all the earth trembles when he rushes by.

13. When the poet says "A train is a dragon that roars," she compares the

A) age of the two B) sounds made by a train and a dragon

C) smells of a train and a dragon D) feel of the two

Map skills

14. I live in the city of _____.

15. I live in the state of _____.

16. My country is called _____.

17. I live on the continent of _____.

He clasps the crag with crooked hands;
Close to the sun in lovely lands,
Ringed with the azure world, he stands.

The wrinkled sea beneath him crawls;
He watches from his mountain walls,
And like at thunderbolt he falls.

18. An example of metaphor in this poem is;

A) "in lovely lands" B) "crooked hands" "he stands"

D) "close to the sun"

19. Two things compared in the metaphor above are:

A) lovely lands with heaven B) the azure world with the sea

C) the sun with the crag D) eagle claws with crooked hands

20. An example of simile in "The Eagle " is;

A) "watches from mountain walls" B) "like a thunderbolt"

C) "ringed with the azure world" D) "beneath him crawls"

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STUDENTS-PARENTS AS PARTNERS
P.S. 54K
MATHEMATICS (Grades 5-6)

Name: _____ Date: _____

① 8347 + 1960

a) 7,627 c) 8,914 E) NG
b) 10,307 D) 9 12,107

② 8017 − 1623

a) 6,394 c) 7,615 E) NG
b) 7,614 D) 9,740

③ 6347 × 6

a) 11,307 C) 10,307 E) NG
b) 38,082 D) 6,353

④ 403 × 12

a) 4836 c) 415 E
b) 4816 D) 4806

⑤ 837 × 112

a) 92,474 c) 949 E) NG
b) 92,743 D) 93,744

⑥ $144 \div 2 = \square$

a) 288 c) 72 E) NG
b) 146 D) 27

⑦ $81 \div 2 = \square$

a) 162 c) 41^{R2} E) NG
b) 9 D) 40^{R1}

⑧ $12\overline{)4836}$

a) 49 c) 403 E
b) 304 D) 710

⑨ $\frac{1}{8} + \frac{3}{8} = \square$

a) $\frac{4}{16}$ c) $\frac{1}{2}$ E) NG
b) $\frac{2}{8}$ D) $\frac{4}{64}$

⑩ $14\frac{1}{2} + 3\frac{1}{4} = \square$

a) $17\frac{3}{4}$ c) $17\frac{3}{8}$ E) NG
b) $17\frac{2}{6}$ D) $11\frac{1}{4}$

⑪ $8\frac{1}{2} - 3\frac{1}{4} = \square$

a) $5\frac{2}{6}$ C) $11\frac{1}{8}$ E) NG
b) $11\frac{2}{6}$ D) $5\frac{1}{8}$

⑫ 1.4 × 1.9

a) 1.66 c) 16.6
b) 3.3 D) .33

⑬ 1.71 × .2

a) 243 C) 3.42 E) NG
b) 1.79 D) 342

⑭ Eight thousand Twenty =

a) 8000,20 c) 80020
b) 8020 D) 820
E) NG

⑮ Complete the Pattern

17, 29, —, —, —

⑯ Complete the Pattern

149, 139, —, —

⑰ John spends 39 cents. He gives the store owner $5.00. How much change does he get? _____

⑱ Peter has twenty dollars. His father gives him $100. How much money does he now have? _____

⑲ 12 ones
14 hundreds
9 Tens =

⑳ Which number the largest
a) 8.34 C) .9171
b) 14 E) .00000

#5001-48-63433

COMPUTER LITERACY PROGRAM, 1985-1986

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinators: Anton J. Klein
Walter Edge
Robert Carter
Charles Warren
Howard Schwartzapfel
Brenda Isaacs
Edward Gibson

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Computer Literacy Program is designed to provide middle-school students with basic computer knowledge and to expose them to career opportunities in the field of computers. In 1985-86, the program served some 1,400 students, in grades three through nine, at the following Community School Districts (C.S.D.s): 11, 12, 14, 16, 25, 27 and 28. School principals selected pupils for participation in the program.

Students attended 45-minute sessions, two or three days a week for periods of time ranging from two to five months. Classes were held in computing centers, containing between five and ten computers and appropriate software, that were established in each one of the schools. Class activities focused on computer languages, use of the equipment, and work with pre-programmed Computer Assisted Instruction programs in various curricula areas.

The objective of the program was for participants to demonstrate an understanding of computer literacy by composing and executing simple programs, executing basic computer commands, and identifying careers related to the computer field. Student growth was measured by pre- and posttest outcomes on the Minnesota Group Test.

Project staff consisted of tax-levy teachers already working in the participating schools and school principals who supervised all program activities. The New York State Legislature contributed $169 thousand to pay primarily for computer equipment and instructional supplies.

EVALUATION METHODOLOGY

Evaluation activities focused on the analysis of student performance on a modified version of the Minnesota Group Test. Only Part II of this test was administered as both a pre- and a posttest. This part of the test consists of 45 multiple-choice items on basic computer uses, terms, and applications (see Appendix A).

FINDINGS

Table 1 reports the progress of 816 students from five C.S.D.s for whom valid pre- and posttest scores were available. C.S.D.s 16 and 27 are not included in this table because students were administered different tests which were not approved by the Office of Educational Assessment (O.E.A.). Overall, mean pretest

TABLE 1

Students' Mean Raw Scores[a] on the
Minnesota Group Test, Part II, by District
Computer Literacy Program, 1985-86

District	N	Pretest Raw Score	Pretest Percent Correct	Posttest Raw Score	Posttest Percent Correct	Gain Raw	Gain Percent
11	80	22.7	50.4%	27.5	61.1%	4.8	10.7%
12[b]	159	13.6	30.2	29.2	64.9	15.6	34.7
14	183	27.5	61.1	32.0	71.1	4.5	10.0
25	145	23.3	51.8	33.6	74.7	10.3	22.9
28	249	21.0	46.7	28.8	64.0	7.8	17.3
TOTAL	816	21.6	48.0	30.2	67.2	8.6	19.2

[a]Perfect Raw Score = 45.
[b]Forty-seven students scored zero on pretest.

- Overall, mean gain was about 19 percent points.
- Mean gains ranged widely from district to district.

raw score was 21.6 points (48 percent correct), mean posttest raw score was 30.2 points (67.2 percent correct) for a mean gain of 19.2 percent. Apart from C.S.D. 12 students who made the lowest pretest score, pupils in other districts showed similar pretest scores, ranging from 21 to 27.5 raw score points. Post-test mean scores ranged from 27.5 to 33.6 raw score points. Mean gains showed wide variation between districts, ranging from ten to 34.7 percent points. This latter gain corresponds to the lowest pretest mean score but should also be attributed to the fact that 47 students in C.S.D. 12 scored zero on the pretest.

Table 2 presents C.S.D. 16 and 27 students' mean raw scores on three criterion-referenced tests not approved by O.E.A. C.S.D. 16 administered three different tests to three groups of pupils. Gains ranged from eight to 24.5 percent.

CONCLUSIONS AND RECOMMENDATIONS

The evaluation findings indicate that students improved their performance on the Minnesota Group Test, achieving an overall mean gain of 19.2 percent. There was, however, considerable variation in the performance of students from district to district which may have resulted from differences in grade levels and the amount of time pupils received project services. But these assumptions could not be checked because data retrieval forms reported two or more grade levels together. As indicated in previous reports, what remains problematic for evaluation purposes is the testing instrument which is not

TABLE 2

Students' Mean Raw Scores on Three Criterion-Referenced Tests[a] Administered at C.S.D. 16 and 27 Computer Literacy Program, 1985-86

District	N	Pretest Raw Score	Pretest Percent Correct	Posttest Raw Score	Posttest Percent Correct	Gain Raw	Gain Percent
C.S.D. 16							
Group 1[b]	56	5.1	34.0%	7.7	51.3%	2.6	17.3%
Group 2[c]	11	8.1	40.5	13.0	65.0	4.9	24.5
Group 3[d]	23	14.9	62.1	20.0	83.3	5.1	21.2
C.S.D. 27[b]	111	8.0	53.3	9.2	61.3	1.2	8.0

[a]Not approved by O.E.A.
[b]Perfect Raw Score = 15.
[c]Perfect Raw Score = 20.
[d]Perfect Raw Score = 24.

- All participants achieved gains from pretest to posttest.

appropriate to measure the project's stated objectives. The tests administered by C.S.D. 16 and 27 are not adequate substitutes for the Minnesota Group Test. All tests measure factual knowledge on basic computer use and applications but do not include items to measure "an understanding of computer literacy by composing and executing simple programs and executing basic computer commands." In the future, project staff should replace the test with a more appropriate one, reflecting project activities and objectives. Lastly, the objective should be expanded to include a quantifiable measure of project success. For example, 80 percent of the pupils will gain at least 30 percent from pretest to posttest.

COMPUTER LITERACY PROGRAM APPENDIX A #33 Pre- post-test

DIRECTIONS:

For each of the following questions, circle the letter beside the best answer. If you do not know the answer to a question, do not leave the item blank; circle the letter beside "I don't know." Use the "I don't know" response as little as possible. Use the "I don't know" response only when you don't even have a guess about the best answer. DO NOT leave any item blank that you attempt; either circle the letter beside an answer of "I don't know."

1. Police sometimes use computers to help identify stolen cars.

   a. true
   b. false
   c. I don't know

2. Most hospitals give injections by computer.

   a. true
   b. false
   c. I don't know

3. Computers cannot be used to assist in teaching English grammar.

   a. true
   b. false
   c. I don't know

4. Computers are not really used very much yet except by scientists.

   a. true
   b. false
   c. I don't know

5. Government officials use computers to store and retrieve large amounts of information about citizens.

   a. true
   b. false
   c. I don't know

6. People often use computers to store large amounts of information they wish to use over and over again.

   a. true
   b. false
   c. I don't know

7. Computers help people make decisions by providing correct answers to any question.

   a. true
   b. false
   c. I don't know

8. Computers help people make decisions by telling them if their problem is important.

   a. true
   b. false
   c. I don't know

9. Computers have been used to make more information and products available to the consumer.

   a. true
   b. false
   c. I don't know

10. Computers are used to commit crimes, especially stealing money and stealing or falsifying information.

    a. true
    b. false
    c. I don't know

11. Identification numbers and passwords are a primary means for restricting undesired access to computer files.

    a. true
    b. false
    c. I don't know

12. Use of computers in education always results in less personal treatment of students.

    a. true
    b. false
    c. I don't know

13. Privacy is an issue with files containing personal information about people.

    a. true
    b. false
    c. I don't know

14. The increased use of computers in our society both eliminates and creates jobs.

    a. true
    b. false
    c. I don't know

15. Almost all people in our society are affected in some way by computers.

    a. true
    b. false
    c. I don't know

16. In order to use a computer you would have to be in the same building as the computer.

    a. true
    b. false
    c. I don't know

17. Computers are able to think in every way just like people.

    a. true
    b. false
    c. I don't know

18. Using computers can free one to do more creative tasks, but this may lead to more dependence upon machines.

    a. true
    b. false
    c. I don't know

19. In order to use any computer you would have to use a telephone.

    a. true
    b. false
    c. I don't know

20. In order to use a computer a person must know how to program.

    a. true
    b. false
    c. I don't know

21. Computers are <u>not</u> good for tasks that require:

    a. speed
    b. accuracy
    c. intuition
    d. something to be done over and over again
    e. I don't know

22. If your charge account bill has an error, it was probably caused by:

    a. breakdown of the computer
    b. mistakes made by people
    c. poor design of the computer
    d. general weaknesses of machines
    e. I don't know

23. The main duty of a computer programmer is to:

    a. operate a computer
    b. prepare instructions for a computer
    c. schedule jobs for a computer
    d. design computers
    e. I don't know

24. The computer related job closest to that of a typist is:

a. computer operator
b. keypunch operator
c. systems analyst
d. computer programmer
e. I don't know

25. Which of the following persons is the most likely to be associated with the design of computers?

a. keypunch operator
b. computer operator
c. computer programmer
d. computer scientist
e. I don't know

26. A basic use of computers in libraries involves:

a. information storage and retrieval
b. simulation and modelling
c. process control
d. computation
e. I don't know

27. A basic use for computers in the design of airplanes is:

a. simulation and modelling
b. process control
c. making reservations
d. keeping inventory
e. I don't know

28. The most questionable use of large computer files is:

a. government planning
b. research
c. checking on people
d. administration of social programs
e. I don't know

29. Which of the following is a limiting consideration for using computers?

a. cost
b. software availability
c. storage capacity
d. all of the above
e. I don't know

30. Which is <u>not</u> a characteristic of most information systems?

a. a large volume of information is stored and used
b. the information is organized
c. the basic purpose is to provide reports and summaries of the data
d. they contain only alphabetic data
e. I don't know.

31. The decade of first extensive manufacturing of computers was:

a. 1860's
b. 1890's
c. 1920's
d. 1950's
e. I don't know.

32. Computer software is a term describing:

a. computer programs
b. electronic components encased in soft plastic or rubber
c. people who work with computers
d. mechanical and electronic parts of a computer system
e. I don't know

33. In addition to input and output equipment, computers contain:

a. terminals, paper, transistors
b. memory units, control units, arithmetic units
c. people who work with computers
d. mechanical and electronic parts of a computer system
e. I don't know

34. A computer system is best described as

a. processing
b. programming, input, and output
c. input and output
d. input, processing, and output
e. I don't know

35. The physical parts of a computer are referred to as:

a. programs
b. hardware
c. software
d. manuals
e. I don't know

36. When in operation, a computer:

a. follows a set of instructions written by people
b. thinks just like a person
c. recalls answers from memory
d. translates data from digital to analog code
e. I don't know

37. Computers <u>cannot</u> run without:

a. blinking lights
b. keyboards
c. instructions
d. all of the above
e. I don't know

38. In order to program a computer, a person:

a. can use any English language words
b. can use any English or foreigh language words
c. must use programming language numbers, not words
d. must use the words from a programming language
e. I don't know

39. At any given moment, a computer's memory can store:

a. programs
b. data
c. answers
d. all of the above
e. I don't know

40. Data processing is best described as:

a. the collection of data
b. producing reports
c. manipulating data according to instructions
d. using punched cards in a keypunch machine
e. I don't know

41. A computer program is a:

a. course on computers
b. set of instructions to control the computer
c. computer generated presentation
d. piece of computer hardware
e. I don't know

42. Computer processing of data may involve:

a. searching
b. summarizing
c. deleting
d. all of the above
e. I don't know

43. The computer must have two types of information to solve a problem::

a. the problem and the answer
b. the name of the program and user number
c. the data and the instructions
d. the name of the program and your name
e. I don't know

44. A newspaper publisher has the following information about subscribers stored in the computer. They are name, address and renewal date. How would you arrange the information to be most useful to the delivery person?

a. ordered listing by address
b. ordered listing by renewal dates
c. alphabetical listing of streets
d. ordered listing by zip code
e. I don't know

45. Choose the correct output for the procedure described below:

1. List the three names Brown, Anderson and Crane in alphabetical order
2. Remove the last name from the list
3. If only name is left, stop. Otherwise, go on to step 4
4. List the remaining names in reverse order
5. Go back to step 2

Output

a. Anderson, Brown, Crane
b. Brown
c. Anderson, Brown
d. Anderson
e. I don't know

DIRECTIONS:

If you have never written a computer program, STOP:
DO NOT answer items 1 - 3 below. Answer items 1 - 3 only if you have written a computer program before.

1. Choose the correct output for the computer program shown below:

```
1  LET A = 3
2  LET B = 4
3  LET C = A
4  LET B = C
5  LET A = B
6  PRINT A, B
7  END
```

OUTPUT

a. 3 4
b. 4 3
c. 3 3
d. 4 4
e. I don't know

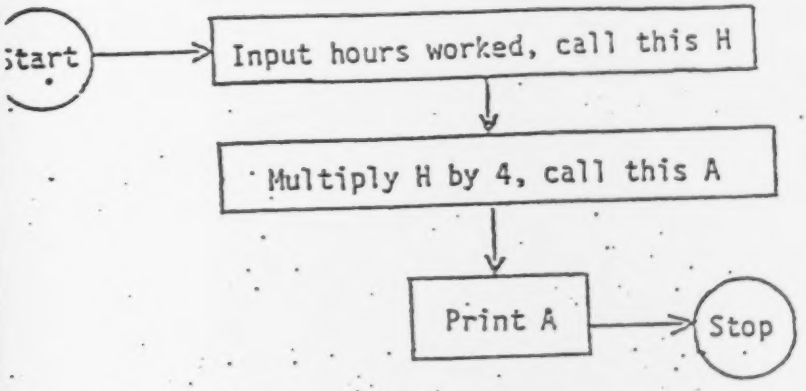
2. When run on a computer, the following program will:

```
1  INPUT A, B, C, D, E
2  LET S = A+B+C+D+E
3  LET M = S/5
4  PRINT S,M
5  END
```

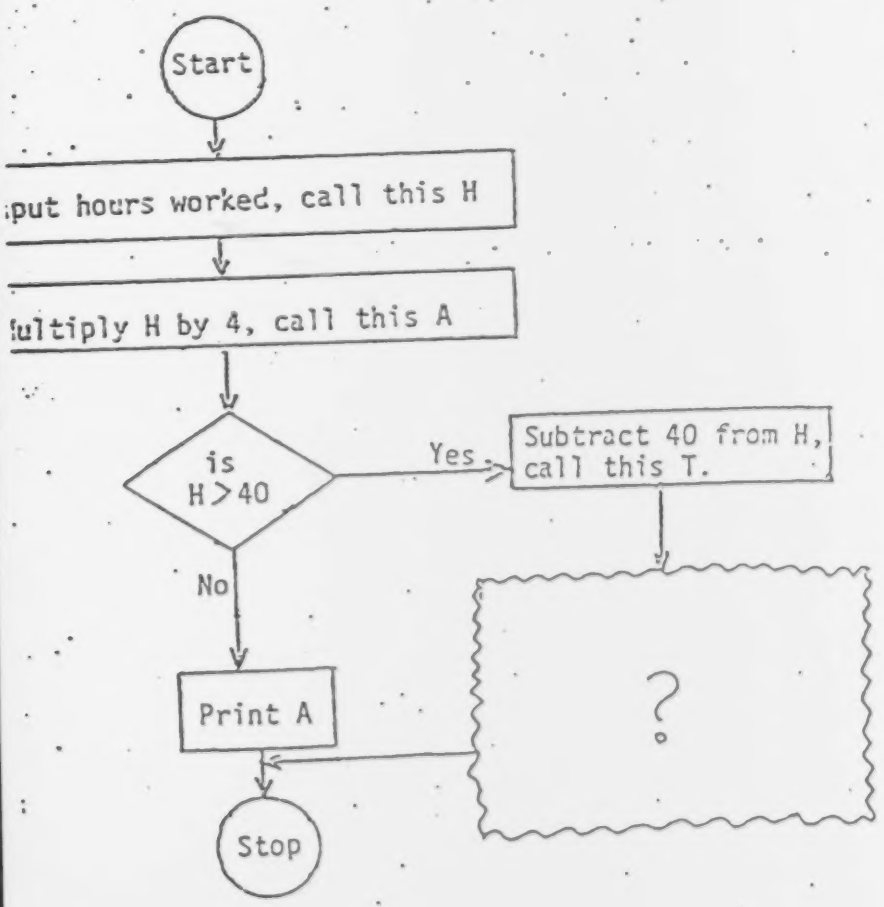
OUTPUT

a. Calculate the sum of five input values
b. Calculate the average of five input values
c. Print the sum and average of five input values
d. all of the above
e. I don't know

An algorithm (flowchart) to determine the weekly wages of employees in a bakery is shown below. Employees are paid $4 per hour up to 40 hours per week.



Employees are also paid "time-and-a-half" ($6 per hour) for overtime (hours worked over 40). How would you extend the flowchart below to include overtime pay. Select answer a, b, c, d, or e.



a.) Multiply T by 6, call this B
Print B

b.) multiply T by 6. call this
print A + B

c.) multiply T by 2. call this
print B

d.) multiply T by 2. call this
print A + B

e.) I don't know

#5001-48-63439

RIVERDALE PREPARATORY ACADEMY, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Ralph Di Fiori

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

Riverdale Preparatory Academy operates as a mini-school for junior high-school pupils in Community School District (C.S.D.) 10. At the mini-school, pupils receive a full academic program focusing on an intensive review of basic skills and special enrichment activities, and return to the main school only for subjects such as physical education and industrial arts.

In 1985-86, the project operated at two sites, Junior High Schools 45 and 141, and served some 240 ninth-grade students who were selected by their schools on the basis of two criteria: 1) evidence of average or above average ability and below grade level reading scores on citywide reading tests, and 2) average or above average test scores but poor performance in school. Project activities included basic-skills instruction with an emphasis on the classics in literature, special writing projects, practical experiences with mathematics concepts, use of visual media, and attendance to diverse cultural events. The objective for 1985-86 was for participants to improve their reading achievement scores on annual citywide tests of reading achievement.

The project was staffed by members of the participating junior high schools. The principal for each school was responsible for the overall implementation of the program and a teacher-in-charge was assigned to coordinate and supervise the mini-school activities. Funding of $23 thousand from the New York State Legislature was used for instructional supplies and enrichment activities.

EVALUATION METHODOLOGY

The effect of the program on student achievement was determined by examining the change in pupils' reading performance between 1985 and 1986. Students' scores on the Degrees of Reading Power (D.R.P.) Test, administered in April 1986, were compared to their scores on the Reading Subtest of the California Achievement Test (CAT), given in April 1985. Since these tests are different, CAT test scores were converted to comparable test scores on the D.R.P. All scores were then converted to normal curve equivalent (N.C.E.)* scores which express student performance relative to a national norm. Mean N.C.E. gains are interpreted as a measure of project impact on student achievement. Correlated t-tests were computed to establish if

*N.C.E. scores are similar to percentile ranks, but unlike percentile ranks, are based on an equal-interval scale. Normal curve equivalent scores are based on a scale ranging from 1 to 99 with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced apart, arithmetic and statistical calculations such as averaging are meaningful; in addition, comparisons of N.C.E. scores may be made across different achievement tests.

achievement differences were statistically significant. Effect size (E.S.)* which indicates educational meaningfulness of the mean gain or loss for each comparison was also calculated.

Since two different criteria were used to select participants, pretest N.C.E. scores also served to distinguish between those students scoring below grade level (below 50 N.C.E.s) and those making average or above average reading scores (above 50 N.C.E.s).

FINDINGS

Complete test scores were reported for 218 pupils, 105 of whom scored below grade level at pretest and the remaining 113 scored above grade level at pretest (see Table 1). Overall, mean pretest score was 51.6 N.C.E.s, mean posttest score was 57.1 N.C.E.s, for a statistically significant mean gain of 5.5 N.C.E. points. Pupils scoring below grade level at pretest made a mean pretest score of 42 N.C.E.s; a mean posttest score of 54.5 N.C.E.s, and achieved a large mean gain of 9.5 N.C.E.s, while those students with average or above average pretest scores made a mean score of 60.5 N.C.E.s at pretest and improved their mean reading score by 1.7 N.C.E.s at posttest. The effect size was

*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

TABLE 1

Mean N.C.E. Scores on Standardized Citywide Reading Tests[a]
Riverdale Preparatory Academy, 1985-86

Students Scoring Above or Below 50 N.C.E.s at Pretest	N	Pretest		Posttest		Difference[b]		
		Mean	S.D.	Mean	S.D.	Mean	S.D.	E.S.
Below 50 N.C.E.s	105	42.0	5.7	54.5	6.9	9.5	8.0	1.2
Above 50 N.C.E.s	113	60.5	7.6	62.2	8.1	1.7	7.1	.2
TOTAL	218	51.6	11.4	57.1	9.2	5.5	8.5	.6

[a]Pretest = Reading Subtest of the California Achievement Test (CAT)
Posttest = Degrees of Reading Power (D.R.P.) Test

[b]These gains were significant at $p \leq .05$.

- Students scoring below grade level at pretest achieved a large statistically significant and educationally meaningful mean gain.
- Pupils scoring on or above grade level achieved a low mean gain.

large (1.2) for students who were reading below grade level at pretest and small (0.2) for those who were reading on or above grade level at pretest.

CONCLUSIONS AND RECOMMENDATIONS

The Riverdale Preparatory Academy was successful in meeting its objective. Participants improved their reading performance at posttest achieving a statistically significant mean gain of 5.5 N.C.E. scores. The program, however, had a different impact on the performance of participants which varied with the students' reading ability at pretest. Those students scoring on or above grade level at pretest had less room for improvement than those scoring below grade level at pretest who made a greater than average gain at posttest. Since different criteria were used for student selection, high ability and low test scores or high test scores and low performance, it may be the case that these two groups of students have different instructional needs. Project activities obviously had an impact upon students scoring below grade level at pretest but did not improve so much the performance of students with high pretest scores. Project staff should reconsider the criteria for student selection and/or redesign project activities to respond to different student needs. Pupils with high test scores, for instance, might not need the emphasis on basic skills that the program provides. Finally, future program objectives should include a quantifiable measure of student improvement, for instance, "participants will achieve a mean gain of at least five N.C.E.s."

#5001-48-63445

SCIENCE ENRICHMENT PROGRAM, 1985-86

School-Community Education Program
Program Administrator: Jack Isaacs
Project Coordinator: Edward Millman

Prepared By:
Office of Educational Assessment
New York City Public Schools

PROJECT DESCRIPTION

The Science Enrichment Program provides after-school science instruction to elementary school pupils in Community School District (C.S.D.) 23. Recognizing the need to improve the level of student academic achievement in science, the project seeks to supplement and enrich regular science courses. The program, first implemented in 1985-86, served 300 pupils in grades four through six, in ten elementary schools. Teachers and school principals selected students based upon their willingness to participate in the program.

Students attended two-hour sessions, two days a week. Classroom instruction focused on electricity, friction, gravity and motion, the solar system, weather and climate, water, basic chemistry and physics, and the environment. To encourage the development of pupil reasoning and thinking skills, the program emphasized hands-on instruction, pupil experimentation, and problem-solving activities.

The objective of the program was for participants to increase their knowledge of science concepts and information,

appropriate for their grade level, as measured by a project-developed test.

C.S.D. 23 staff members and the district science coordinator supervised the program and licensed teachers provided classroom instruction. The New York State Legislature contributed $60 thousand to pay for teachers' after-school activities and purchase science supplies and equipment.

EVALUATION METHODOLOGY

Evaluation activities focused on the analysis of student performance on a project-developed test (see Appendix A). The test consists of 20 multiple-choice items on conceptual and factual science knowledge. The test was administered both as a pretest and posttest at the beginning and end of program activities.

FINDINGS

This section reports the progress of 210 students from eight schools for whom valid pre- and posttest scores were available (see Table 1). Overall, mean pretest raw score was 9.4 points (46.7 percent correct), mean posttest raw score was 13.6 points (67.8 percent correct), for a mean gain of 21.1 percent. Student performance varied widely between schools, mean gains ranged from 6.5 to 33.5 percent. Apart from P.S. 183 students who achieved the largest mean pretest raw score (11.8 points), the rest of the schools made similar pretest scores, ranging from 10.4 to 16.1

TABLE 1
Students' Mean Raw Scores[a] on a Project-Developed Test, by School Science Enrichment Program, 1985-86

School	N	Pretest		Posttest		Gain	
		Raw Score	Percent Correct	Raw Score	Percent Correct	Raw	Percent
P.S. 41	39	9.2	45.8%	15.6	77.8%	6.4	32.0%
73	15	8.9	44.3	11.8	59.0	2.9	14.7
155	57	8.3	41.7	12.1	60.3	3.8	18.6
156	20	9.4	46.8	16.1	80.3	6.7	33.5
165	20	9.1	45.7	10.4	52.2	1.3	6.5
178	22	9.6	47.8	12.1	60.5	2.5	12.7
183	12	11.8	58.8	15.2	76.1	3.4	17.3
332	25	8.6	42.8	15.1	75.5	6.5	32.7
TOTAL	210	9.4	46.7	13.6	67.8	4.2	21.1

[a]Perfect raw score = 20

- Student performance varied widely between schools, mean gains ranged from 6.5 to 33.5 percent.

points. P.S. 41, P.S. 156 and P.S. 332 achieved the largest mean gains which, in all cases, were above 30 percent.

CONCLUSIONS AND RECOMMENDATIONS

On the basis of the evaluation findings, the Science Enrichment Program was successful since students at all schools increased their knowledge of science concepts and information. Student test outcome data show that project participants improved their overall performance with a mean gain of 21 percent. There was considerable variation in the performance of pupils from school to school which may have resulted from differences in grade levels and the amount of time students received project services. But it was not possible to check this assumption because the data retrieval forms did not indicate grade levels. In the future, project staff should provide this information to facilitate project evaluation. In addition, the program objective should be expanded to include a quantifiable measure of project success (for example, 80 percent of the pupils will achieve a gain of at least 25 percent from pretest to posttest).

APPENDIX A
SCIENCE ENRICHMENT PROGRAM

PRE- AND POST-TEST

The following test is a short quiz to find out how much you remember about the Science Enrichment Program. Put an (X) on the letter that you think is the correct answer for each question.

1. Green plants use light, water and carbon dioxide to produce:

   a. bacteria
   b. food
   c. minerals
   d. fungus

2. You can observe your face in a mirror because the mirror:

   a. produces light
   b. breaks down the light rays
   c. reflects light
   d. absorbs light

3. Electricity circulates best via:

   a. air
   b. wood
   c. paper
   d. wire

4. A dry cell produces electricity because of:

   a. wind energy
   b. chemical action
   c. water energy
   d. heat energy

5. Which of the following diagrams represents a complete circuit?

6. When a person "makes a muscle" with his fist and arm, he is causing the bulging muscle to get:

   a. longer
   b. shorter
   c. relaxed
   d. none of the above

7. When rays of light strike a rough surface, they are:

   a. reflected in many directions
   b. reflected in one direction
   c. absorbed by the surface
   d. destroyed

8. A mirror can be used for all of the following except:

   a. looking over a wall
   b. seeing behind you
   c. looking around a corner
   d. seeing in the dark

9. Patterns of many small objects can be made by using mirrors in a:

   a. radioscope
   b. kaleidoscope
   c. gravity scope
   d. telescope

10. When the amount of light falling on an object is reduced:

   a. the image becomes brighter
   b. the image is curved
   c. the image becomes dimmer
   d. the image disappears

11. A chemical change is one that:

   a. can not go back to the starting materials
   b. can go back to the starting materials
   c. disappears
   d. will produce no changes at all

12. If you want a liquid to evaporate, you might:

   a. freeze it
   b. burn it
   c. mix it with another liquid
   d. boil it

13. If you take a solution of food coloring dye and water and leave it on a windowsill, what will happen to the dye?

   a. it will become invisible
   b. it will get lighter
   c. it will be left in concentrated form after the liquid has evaporated
   d. it will evaporate

14. If we put some apple juice in a warm place it may begin to bubble. This might be happening because of the action of:

   a. evaporation
   b. a physical change
   c. condensation
   d. a chemical change

15. All of the following are needed for burning except:

a. fuel
b. oxygen
c. heat source
d. carbon dioxide

16. The Solar System is made chiefly of:

a. stars
b. planets
c. planets and asteroids
d. The sun, the planets and their moons

17. The moon can be seen fron the Earth because:

a. it emits light
b. it is a light color
c. it reflects light from the sun
d. it is a satellite

18. Light travels at:

a. 8 miles per minute
b. 186,000 miles per second
c. 100 million miles per day
d. 60 miles per hour

19. Latitude is measured in:

a. inches
b. degrees
c. grams
d. miles

20. We can not observe stars in the daytime because:

a. they reflect the sun's light
b. they emit light only at night
c. of the sun's brightness
d. they move in space